

**Amendments to the Drawings:**

The attached replacement sheet includes amendments to Figure 1, as suggested by the Examiner. The Replacement Sheet, which includes Figure 1, replaces the original sheet containing Figure 1. In Figure 1, descriptive legends for the boxes and other elements shown in Fig. 1 have been provided.

Attachment: 1 replacement sheet

## REMARKS

Claims 12-22 are pending in the present application. Claims 17-21 have been amended. In view of the amendments and the following remarks, it is respectfully submitted that all of the presently pending claims 12-22 are allowable, and reconsideration of the present application is respectfully requested.

In response to the Examiner's drawing objection, Applicants have amended Fig. 1 to include descriptive legends for the boxes and various other elements.

In response to the Examiner's objection to claims 17-21, Applicants have amended claims 17-21 in accordance with the Examiner's suggestions.

Claims 12-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,104,308 ("Wallace") in view of Rappaport, *Wireless Communications*. Applicants respectfully submit that the rejection should be withdrawn for at least the following reasons.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). To the extent that the Examiner may be relying on the doctrine of inherent disclosure, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

As regards claim 12, the Examiners concedes that Wallace does not disclose data generated via a change in current flow using data pulses with an inverted pulse half and a non-

inverted pulse half, where data is encoded with a pulse-edge change between the pulse halves using Manchester coding. The Examiner asserts that Rappaport discloses this claimed feature in Figure. 5.14(c) and page 225, second paragraph, under section 5.4.3. However, nothing in Rappaport actually teaches or suggests this claimed feature, particularly because Rappaport does not disclose changes in current flow with Manchester-coded pulse-edge changes; instead, Rappaport states in section 5.4.3, on page 225, second paragraph, that the pulse edge changes “may either be unipolar (with voltage levels being either 0 or V) or bipolar (with voltage levels being either -V or V).” Figure 5.14 confirms that data coding through voltage changes are envisioned. Nowhere does Rappaport specify that data is encoded via changes to the *current flow*. The novel aspect of the invention involves the fact that both bidirectional communication is enabled, and that one of the directions is encoded through pulse-edges changes in the *current*.

For at least the foregoing reasons, claim 12 and its dependent claims 13-16 and 22 are allowable over the combination of Wallace and Rappaport. Claim 17 is system claim counterpart to method claim 12, and claim 17 recites substantially similar limitations as the above-recited limitations of claim 12. Therefore, claim 17 and its dependent claims 18-21 are allowable over the combination of Wallace and Rappaport.

### Conclusion

In light of at least the foregoing, Applicants respectfully submit that all pending claims 12-22 are in allowable condition. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,

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Dated: 11/25/07

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